

A NEW NEARCTIC *DIXA* (DIPTERA: DIXIDAE)¹

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Abstract.—*Dixa pseudindiana*, new species, from Minnesota is described with illustrations of the wing and both male and female terminalia. The immature stages are unknown.

The Cedar Creek Natural History area just outside the Minneapolis St. Paul metropolitan area of Minnesota, is where I had my first contact with dixid midges. This area was the source of materials for many of my earliest observations and rearings. In fact, the large numbers of *Dixella indiana* (Dyar) used in the morphological study included in Peters and Cook (1966) were collected from this area during several visits.

The first specimen of the species described herein was set aside when I first examined it in the early 1960's. Although I marked the slide "like none" as I was grouping phenae, I really considered that I had simply mounted the specimen poorly and that it was indeed only a distorted specimen of *D. indiana*. During a current reorganization of my dixid collection I ran across three additional slides with the same collection date and locality in a box containing materials accumulated when I was originally learning to slide-mount dixids. In backtracking through notebooks and jars, I found a single jar bearing my collection notebook #45 and labeled "*D. indiana* and *D. dorsalis*." The "*D. dorsalis*" were all in fact the new species described in this paper. As far as I can determine I did not collect this new species in any of my other trips to Cedar Creek Natural History area nor in the many other collections I made throughout the state of Minnesota.

Dixid swarms were flying 4 to 20 inches above the water level and up against the overhanging vegetation on Sept. 14, 1962. The swarms numbered 2-15 individuals and may have been mixtures of *D. indiana* and this new species. The swarming adults were essentially all males. A female now and then was observed to fly slowly by a swarm, but no mating was observed. Observations made on a swarm disclosed that every few minutes one or

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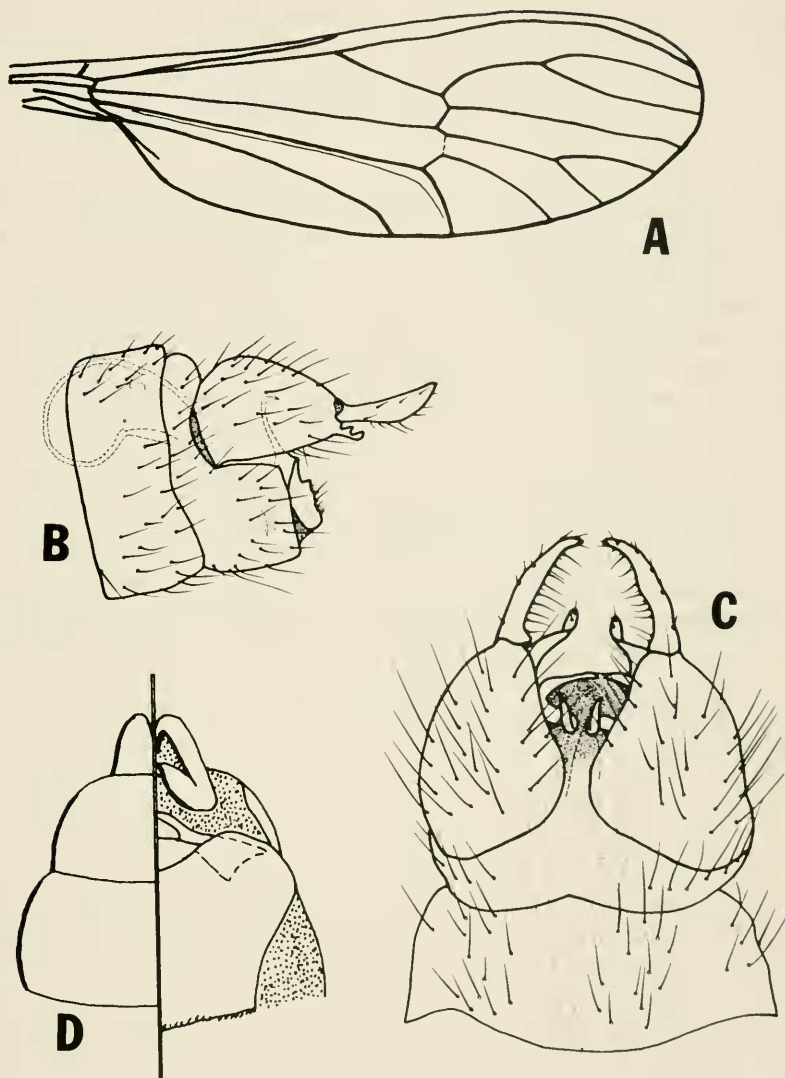


Fig. 1. Wing and terminalia of *Dixia pseudindiana*. A, Wing. B, Male terminalia, lateral view. C, Male terminalia, dorsal view (rotated). D, Split drawing of female terminalia; left dorsal, right ventral.

two males would fly over to a blade of grass and rest. In two to four minutes the resting male would rejoin the swarm.

The name of this species reflects the similarities in genitalic morphology between it and *D. indiana*. The great similarity in the male cercus and in

the apical lobe of the basistyle may cause misidentification. The dististyles of the two species, however, are very distinct.

Dixa pseudindiana Peters, NEW SPECIES

Figs. 1A-D

Type-material.—Holotype ♂, Cedar Creek Natural History Area, East Bethel, Anoka Co., Minnesota, Sept. 14, 1962. In the T. Michael Peters dixid collection at the Department of Entomology, University of Massachusetts, Amherst. Paratypes, 38 ♂, 3 ♀, with same data as for holotype.

Diagnosis.—In the key to the genus *Dixa* by Peters and Cook (1966) *Dixa pseudindiana* males come out as either *D. terna* Loew or *D. similis* Johannsen. However, both of these previously described species have the basal lobe of the basistyle well developed whereas it is essentially absent in *D. pseudindiana*.

Females are distinguishable from all other previously described Nearctic *Dixa* because of the sinuous sclerotized ridge in the bursa copulatrix, a pattern entirely unique in the Nearctic *Dixa* fauna.

Description.—*Head*: Medium brown; covered with microtrichia; a line of setae from just above the foramen magnum diagonally across vertex toward each eye, continuing posteriorly just medial to periphery of compound eye, extending around posterior of head, totaling 24–25 setae. Frontoclypeus with a group of 4–5 setae. Scape and pedicel concolorous with head. Flagellum slightly lighter. First flagellomere fusiform (subcylindrical, but with basal portion swollen) length about 10× its distal width, 6.7× its maximum width.

Thorax: Rather uniformly medium brown in specimens preserved in alcohol. Vittae of scutum visible as texturally distinct but concolorous regions. Area just above mesothoracic spiracle with 6–10 setae. Ten–11 setae extend diagonally from anterior edge of scutum along lateral border of medial vitta. A line of 5 setae spread along entire saggital line of median vitta. Scutellum with a transverse line of 11 moderately long setae, the medial one originating slightly posterior of the others.

Wing and Halter: Wing clear, without pigmented areas; length 2.60–2.86 mm in males, 3.00–3.20 mm in females. In males M3+4:M1+2 as 1:1.42–1.59; M3+4:Mst as 1:1.47–2.06; M1+2:Mst as 1:0.96–1.33; R2+3:R3 as 1:1.53–2.25; R2+3:R2 as 1:1.53–2.30. In paratype females vein length ratios fall within ranges for male except M3+4:M1+2 as 1:1.40–1.44; R2+3:R3 as 1:1.29–1.59 and R2+3:R2 as 1:1.20–1.67. Crossvein m-cu incomplete. Halter hyaline.

Leg: Distal spiniform seta on 3rd tarsomere of mid- and hindlegs in all specimens, both male and female. Foreleg without such setae. Male rarely with distal spiniform seta on 2nd tarsomere of midleg. Claws of female simple; male with 2–5 ventral teeth on fore- and on midleg, the basal one

compound and with 3 prongs; hindleg with 4 ventral teeth, including 1 basal. Foreleg femoral:tibial:tarsal length as 1:0.92–1.00:1.38–1.50; midleg as 1:0.87–0.93:1.20–1.21; of hindleg as 1:1.07–1.14:1.50–1.54. In female foreleg 1:0.92–0.93:1.36–1.43, midleg 1:0.88–1.15:1.12–1.38, hindleg 1:1.07–1.13:1.43–1.60.

Abdomen: Darker than thorax, a mixture of brown (as light as thorax) with much darker brown patches, giving an overall mottled, almost grainy appearance. In male, sclerites of 9th segment fused. Sternal area much narrower than tergal area. Tergum 10 divided into 2 semicircular pieces each bearing a non-segmented cercal element that extends dorsoposteriorly (in rotated genitalia) between basistyles. Basistyle without distinct basal lobe, apical lobe flattened, slightly tapering and twisted. Dististyle as in Fig. 1B and C. Ejaculatory duct long, looping anteriorly past sternum 8. Claspette without serrations and not sharply pointed. Penis valve with 5–6 large serrations on lateral margin.

Female terminalia as in Fig. 1D. Form of sclerotized inflections of bursa copulatrix not conforming to the several patterns found among Nearctic dixids (thornlike, spinose and semi-spherical, or setal clumps). Instead, a sclerotized ridge extends around bursa, forming a partial ring (about 120°). Ridge slightly sinuous and irregular, giving rise to a lightly sclerotized piece at one end extending at an acute angle from the main ridge.

LITERATURE CITED

- Peters, T. M. and E. F. Cook. 1966. The Nearctic Dixidae. Misc. Publ. Entomol. Soc. Am. 5: 233–278.